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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,198	04/22/2004	Muneo Kudo	252147US0	5547
22850	7590 02/23/2006		EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET			BROWN, JENNINE M	
ALEXANDRIA, VA 22314			ART UNIT	PAPER NUMBER
			1755	-

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

				1./			
		Application No.	Applicant(s)				
		10/829,198	KUDO ET AL.				
	Office Action Summary	Examiner	Art Unit				
		Jennine M. Brown	1755				
Period fo	The MAILING DATE of this communication app or Reply	ears on the cover sheet with the	correspondence addres	s			
WHIC - External after - If NC - Failu Any	ORTENED STATUTORY PERIOD FOR REPLY CHEVER IS LONGER, FROM THE MAILING DANSIONS of time may be available under the provisions of 37 CFR 1.15 SIX (6) MONTHS from the mailing date of this communication. Period for reply is specified above, the maximum statutory period ver to reply within the set or extended period for reply will, by statute, reply received by the Office later than three months after the mailing and patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION 36(a). In no event, however, may a reply be ting will apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	N. mely filed the mailing date of this communication (35 U.S.C. § 133).				
Status							
1)	Responsive to communication(s) filed on						
,	•	action is non-final.					
3)[Since this application is in condition for allowance except for formal matters, prosecution as to the merits is						
	closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.						
Dispositi	on of Claims						
4)🖂	Claim(s) 1-20 is/are pending in the application.						
-	4a) Of the above claim(s) is/are withdrawn from consideration.						
5) Claim(s) is/are allowed.							
6)⊠	∑ Claim(s) <u>1-9,19 and 20</u> is/are rejected.						
	Claim(s) 10-18 is/are objected to.						
8)∐	Claim(s) are subject to restriction and/or	r election requirement.					
Applicati	on Papers						
9)[The specification is objected to by the Examine	r.					
10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.							
	Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).						
_	Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).						
11)	The oath or declaration is objected to by the Ex	aminer. Note the attached Office	Action or form PTO-1	52.			
Priority u	ınder 35 U.S.C. § 119						
12)	Acknowledgment is made of a claim for foreign	priority under 35 U.S.C. § 119(a)-(d) or (f).				
a) ☐ All b) ☐ Some * c) ☐ None of:							
	1. Certified copies of the priority documents have been received.						
	2. Certified copies of the priority documents	• •					
	3. Copies of the certified copies of the prior	•	ed in this National Stag	је			
* 0	application from the International Bureau	` ' ' '	n d				
3	See the attached detailed Office action for a list	or the certified copies not receive	:a.	-			
Attachmen	Ne)						
Attachmen	t(s) e of References Cited (PTO-892)	4) Interview Summary	(PTO-413)				
2) Notic	e of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail D	ate				
	nation Disclosure Statement(s) (PTO-1449 or PTO/SB/08) r No(s)/Mail Date <u>1/3/06</u> .	5) Notice of Informal F 6) Other:	Patent Application (PTO-152)	.)			

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 1/03/2006 was considered by the examiner.

Claim Objections

Claims 10-18 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only and cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, these claims have not been further treated on the merits.

Claim 5 is objected to because of the following informalities: the tetrafunctional compound should be a titanium compound and not a silane compound represented by formula (2). Appropriate correction is required.

Claims 2-3 and 6 are objected to because of the following informalities: the use of brackets [] rather than parentheses (). In general the use of brackets in a claim denotes the deletion of all text in between the brackets. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Art Unit: 1755

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

- 1. Determining the scope and contents of the prior art.
- 2. Ascertaining the differences between the prior art and the claims at issue.
- 3. Resolving the level of ordinary skill in the pertinent art.
- 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-9 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konya, et al. (US 6777152 B2) in view of Konya, et al. (US 2003/0044706 A1).

See entire disclosure. Regarding claims 1-5, Konya '152 discloses a spherical silica-titania fine particle surface treated with silane (col. 2, l. 10-51), titania content is from 1 to 99% by weight (col. 2, l. 15-16). The spherical silica-titania obtained by simultaneously atomizing a siloxane and titanium compound (col. 3, l. 21-col. 4, l. 54). In the instance that p = 0, as claimed, anything related to R³ is not enabled in the claim language and is therefore not required in the claim. A prima facie case of obviousness may be made when chemical compounds have very close structural similarities and similar utilities. "An obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties." In re Payne, 606 F.2d 303, 313, 203 USPQ 245, 254 (CCPA 1979). See In re Papesch, 315 F.2d 381, 137 USPQ 43 (CCPA 1963) (discussed in more detail below) and In re Dillon, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1991) (discussed below and in MPEP § 2144)

Application/Control Number: 10/829,198

Art Unit: 1755

for an extensive review of the case law pertaining to obviousness based on close structural similarity of chemical compounds. See also MPEP § 2144.08, paragraph II.A.4.(c).

Regarding claims 6-9 and 19-20 Konya '152 do not specifically disclose the use of a hydrophilic organic solvent in the presence of a basic material wherein the alcohol is represented by R^4OH (R^4 is a monovalent hydrocarbon group of 1-6 carbon atoms).

See entire disclosure. Konya '706 discloses titanium chelated compounds in the presence of an organic solvent such as an alcohol group (p.2, pgh 0022-0029). The hydrophilization is disclosed as prepared with a silazane and water to remove excess silazane from the silica-titania compound (p. 4, pgh 0049). The hydrophobilized compound is added to toner within the part per weight of the toner disclosed (p. 5, pgh 0058-0061).

It would have been obvious to one of ordinary skill in the art to modify the original reference to incorporate the organotitanium compound that requires an alcohol solvent so that it is easier to pyrolize and provide sites for hydrophobically substituting the mixed silica-titania oxide compound, which was what was done by the same inventor of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennine M. Brown whose telephone number is (571) 272-1364. The examiner can normally be reached on M-R 9:30 AM - 7:30 PM; Fridays off.

Application/Control Number: 10/829,198

Art Unit: 1755

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Page 5

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jmb

SUPERVISORY PATENT EXAMINER